DOCUMENT RESUME

ED 162 105 08 **CE 018 220**

AUTHOR	Kaplan, Carol B.; Preli, Barbara
TITLE	Project EPIC. Jefferson County Public Schools, Louisville, Kentucky.
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.
SPONS AGENCY	Office of Career Education (DHEW/OE), Washington, D.C.; Office of Education (DHEW), Washington, D.C. Office of Planning, Budgeting, and Evaluation.
REPORT NO	AIR-66700-6/78-TR2(8)
PUB DATE	30 Jun 78
CONTRACT	300-77-0303
NOTE	34p.; For related documents see CE 018 212-223 and CE 018 823
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	*Basic Skills; Career Awareness; *Career Education; Community Involvement; Curriculum Development; Decision Making Skills; Demonstration Projects; Disadvantaged Youth; *Economically Disadvantaged; Educational Objectives; Elementary Secondary Education; Evaluation Criteria; *Evaluation Methods; Faculty Development; Fused Curriculum; Parent Participation; Program Administration; Program Descriptions; Program Development; *Program Effectiveness; Program Evaluation; Resource Materials; *Self Concept
IDENTIFIERS	Education Amendments 1974; Jefferson County Public Schools KY; Kentucky

ABSTRACT

This description of career education activities in Jefferson County (Louisville, Kentucky) was prepared as part of a study conducted to identify evaluated, exemplary career education activities which represent the best of the current career education programs and practices referred to in Public Law 93-380. (See CE 018 212 for the final report of this study.) This document describes one of ten projects selected from 250. It presents one locale's way of successfully implementing a career education activity, the results of which are educationally significant. Each of the ten projects reported on is described in terms of project overview, program development, materials and activities, parent and community involvement, staffing and management, costs, evidence of effectiveness, and conclusions. The ultimate goal of this--the Educational Preparation for Involvement in Careers (EPIC)--project was to provide cumulative experiences across grades K-12 that are designed especially to increase low-income students' self-awareness and basic academic skills. (Special emphasis was placed on aiding students to become aware of a variety of careers and on teaching decision-making skills.) The primary subjects are identified as approximately 5,300 students enrolled in grades K-12, and the evaluation design is described as a pre-and post-test design using treatment students whose scores were compared with a national average or with predicted posttest scores. (BM)

AIR-66700-6/78-TR2(8)

ED162105

PROJECT EPIC

Jefferson County Public Schools

Louisville, Kentucky

Carol B. Kaplan
American Institutes for Research

Barbara Preli
Jefferson County Public Schools

30 June 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The information reported herein was obtained pursuant to contract no. 300-77-0303 with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to document information according to their observation and professional judgment. Consequently, information, points of view, or opinions stated do not necessarily represent official Office of Education position or policy.

CE 018 330

FOREWORD

This activity description was prepared as part of a study conducted by the American Institutes for Research (AIR) under contract No. 300-77-0303 to the U.S. Office of Education. The purposes of the study were to identify evaluated, exemplary career education activities; to recommend identified activities to the Joint Dissemination Review Panel (JDRP) of the Education Division, Department of Health, Education, and Welfare; to prepare descriptions of identified activities; and to develop a handbook with six models for evaluating career education activities.

The criteria established for screening activities in this study intentionally limited choices to those whose evaluation reports presented evidence of effectiveness. Close attention was given to the soundness of evidence in the evaluation reports. A minimum requirement for this evidence of effectiveness was that some comparison standard be provided so that gains made by students participating in the activity could be attributed to that participation. After confidence in the evidence of effectiveness was established, further criteria were applied. These criteria included consistent relationships between a well-planned assessment of needs, a statement of desired student outcomes, the selection of instruments, and the procedures used in data collection, management, and analysis.

This document describes one of ten projects that was selected from among 250 submitted. It presents one locale's way of successfully implementing a career education activity, the results of which are educationally significant. Although the description reflects an activity developed in response to local needs, other school districts with similar needs may wish to adapt parts or all of it according to their own circumstances and philosophy.

We are especially grateful to the staff of Project Epic and to the many school staff members who generously gave their time to answer questions from AIR site visitors. They extended a special kind of hospitality and spared no amount of effort to provide the information necessary to prepare this description. They made it possible for the site visitors to see the program in action, as well as to understand the philosophy and strategies that underlie its operations.

Project Epic materials are judged to be free of bias with regard to race, sex, age, income levels, and type of occupation.

TABLE OF CONTENTS

	Page
PROJECT OVERVIEW	1
PROJECT DESCRIPTION	2
Program Development	2
Relation of the Activity to the Target Population	2
Needs Assessment	2
Program Planning	3
Project Goals	3
Measurement of Achievement	4
Source of Funding	4
Materials and Activities	5
Project Design	5
Implementation Sequence	6
Elementary Phase (K-6)	7
Career Cluster Sequence	9
Middle School Phase (7-8)	11
Senior High Phase (9-12)	14
Key Materials	15
Reactions to Project EPIC Materials and Activities	16
Parent and Community Involvement	16
Advisory Committee	17
Steering Committee	17
Staffing and Management	18
Staffing	18
Management Strategies	19
Management Information System	20
Inservice Training	20
Costs	22
Evidence of Effectiveness	23
Claims of Effectiveness	23
Interpretability of Measures	23
Evidence of Impact	24
Credibility of Evidence	25
Evidence That Effects Are Attributable to the Intervention	27

Page

Evidence of Generalizability to Other Populations 28
Review by Joint Dissemination Review Panel 28

Conclusion 29

PROJECT OVERVIEW

TITLE & LOCATION: Project EPIC (Educational Preparation for Involvement in Careers)
Jefferson County Public Schools
J. Graham Brown Education Center
675 River City Mall
Louisville, Kentucky 40202

TYPE: Infusion

PROJECT DIRECTOR: Barbara Preli
Ph: (502) 581-5630

SETTING: Jefferson County is located in north central Kentucky. The estimated population in the geographic area served is 733,200. The five schools in which the project was implemented in 1976-77 had a total of 5,300 student participants enrolled in grades K through 12. A large segment of the parents is employed in the wholesale and retail trades, service occupations, and government jobs. District staff have been awarded state monies to expand Project EPIC's activities throughout the district's 165 schools.

STAFF: The EPIC staff consisted of a full-time project director, three staff trainers, and a secretary.

GOAL: The goal of Project EPIC is to provide cumulative experiences across grades K-12 that are designed especially to increase low-income students' self-awareness and basic academic skills. Special emphasis is placed on aiding students to become aware of a variety of careers and on teaching decision-making skills.

EVALUATION DESIGN: The impact of Project EPIC activities upon students was assessed in 1976-77 by testing treatment students at the beginning (pretest) and again at the end of the school year (posttest). Student scores were compared with a national average or with predicted posttest scores.

MATERIALS: These materials are available for dissemination: (1) A book describing the career education program; (2) Career Education Handbooks, one for each grade level (K-6) and subject area (7-12), for a total of approximately 30; (3) Career Education Supplements for language arts and math (1-6); and (4) inservice training plans for different academic areas and grade levels.

COST: The largest adoption cost items are the coordinator's and secretary's salaries and coverage for teachers' time spent in personnel training (two days of preservice and one day of in-service training).

PROJECT DESCRIPTION

The purpose of this section is to detail how the Project EPIC infusion program was developed, to describe its staffing and management factors, and to present project activities at three developmental levels. Other aspects discussed are parent and community involvement, costs of implementing the program, and the available evidence for documenting its effectiveness.

PROGRAM DEVELOPMENT

Project EPIC was developed with U.S. Office of Career Education (OCE) funds by the Jefferson County Public Schools, headquartered in Louisville, Kentucky. It espouses OCE's conceptualization of career education as a response to a call for educational reform.

Relation of the Activity to the Target Population

Jefferson County, in north central Kentucky, borders the Ohio River and has a population of approximately 733,200. The five project schools have a total of 5,300 student participants enrolled in grades K-12. According to a 1977 report from the Louisville Area Manpower Office, a large number of parents are employed in the wholesale and retail trades, service occupations, and government jobs. The median family income is $10,609. Twenty percent of the students attending Jefferson County Public Schools come from high-income families ($15,000+); 58% are from middle-income families ($6,000-14,999); and 22% come from low-income families ($5,999 or less).

Overall, the county encompasses a wide range of variations on nearly every demographic dimension. It is comprised of both urban and suburban communities. The population is 85.5% white, with the remaining 14.5% composed of ethnic minorities, primarily black.

Needs Assessment

When Sidney Marland introduced the concept of career education in 1971, Jefferson County staff began studying writings on career education by national educational leaders. A formal system-wide needs assessment was conducted in 1974-75. Parent and student questionnaires were administered, and student academic achievement scores were assessed. The needs assessment revealed that local needs were congruent with the nationwide general need for career education.

In particular, Jefferson County's inner-city schools, which had high percentages of low-income students, presented the following needs that Project EPIC was designed to address:

First, reading and math scores of economically disadvantaged students were below national norms. Career activities were viewed as a motivating factor to influence the improvement of reading and math skills.

Second, students were unable to perceive the relevance of what they learned in school to their future goals.

Third, students had limited knowledge of the value and rewards of work, of the variety of occupations available and the qualifications needed to obtain them, and of necessary employability skills.

Finally, staff felt that large numbers of students were leaving school due to a failure to see any relationship between school programs and their own immediate needs.

Program Planning

Jefferson County's career education effort began informally in one elementary classroom during the 1970-71 school year. The teacher of that elementary class later became the director of career education at the county level. Her teaching strategies for presenting career education set the stage for the County's philosophy -- that career education is a concept to be infused into the total curriculum. The Project EPIC director has had a close association with the U.S. Office of Career Education since 1974. Jefferson County's approach to career education closely reflects the Office of Education's conceptualization of significant ways in which career education can be implemented.

Since the formal needs assessment had indicated that career awareness was of prime importance, the project director met with key teachers in the county to discuss this career education need and to plan appropriate strategies. It was decided that program planning should have input from parents, teachers, administrators, and students.

Project Goals

Based on the needs assessment data and the planning process described above, the project's philosophy was set forth: to manage instructional materials, staff development, and parent and community involvement in such a way as to link the context of regular school subjects to the daily requirements of a successful, productive career. Five basic goals were specified to elaborate that philosophy.

Goal: To provide low-income students with career education experiences that will enable them to increase:

- self awareness
- basic academic/vocational skills
- awareness of work values
- awareness of knowledge about work
- career decision-making skills
- good work habits
- job-seeking skills
- placement
- awareness of the means for continued education.

Goal: To provide the school staff with necessary career education knowledge, skills, and understandings that will enable them to:

- implement the education program via infusion techniques
- involve the business-labor-professional community in the project
- participate in a management information system designed to help project staff implement an operational plan to achieve project objectives.

Goal: To provide the business-labor-professional community with information about the project and with the necessary career education knowledge and understanding that will enable community members to participate in the project and to provide feedback.

Goal: To disseminate the project's materials and techniques on a local, regional, and national basis.

Goal: To provide effective and efficient management of the career education project through the use of an information-based decision-making model.

Measurement of Achievement

To measure the impact of project activities on students, project staff selected two standardized tests (the Coopersmith Self-Esteem Inventory and the Stanford Achievement Test) to be administered at the beginning and again at the end of the school year. Assessment of project implementation took place through classroom observations and teacher questionnaires and interviews.

Source of Funding

Jefferson County sought and received funding from the U.S. Office of Career Education to support supplemental curriculum development, staff training, community involvement, and evaluation of project effectiveness. Funding began in July 1975.

MATERIALS AND ACTIVITIES

The project emphasizes the relevance of curriculum content to careers. Career education is not viewed as a separate segment of the curriculum or as a separate program. The major teaching technique is infusion of career education concepts into the language arts and math content areas. A key decision was made early in the project not to develop specific career education units. Project staff felt that the unit approach was not relevant to the needs of Jefferson County teachers, because the skills addressed in a unit might not match the skills that a teacher needed to stress with his or her students. Instead, career education "supplements" were developed for language arts and math for grades 1-6. The supplements illustrate how to combine an objective from the existing language arts and math curriculum guide with a career education objective. These same techniques are included in subject area handbooks (e.g., language arts and math) for grades 7-12.

In addition to these instructional materials, staff development and community involvement are managed in such a way as to link the context of regular school subjects to the daily requirements of a successful, productive career. The resulting program is directed toward improving the academic achievement of students as well as toward improving students' chances of entering a satisfying and useful career.

Project staff studied a wide range of topics related to helping students make a wise career choice including human growth and development, self concept, vocational guidance/education, career development, work adjustment, economics, and employment and labor market information. From this study, project staff identified the following basic concepts of career education: (1) self-awareness; (2) career awareness; (3) attitudes toward work; (4) decision-making skills; (5) economic awareness; (6) awareness of skills required for different occupations; (7) employ-ability skills; and (8) educational awareness.

Project Design

Project EPIC activities include a scope and sequence structure based on the eight career education concepts and an occupational clustering system developed by project staff. The 20 occupational clusters selected by the staff are shown in the following chart.

PROJECT EPIC

Occupational Clusters

1. Home	11. Hospitality and Recreation
2. School	12. Natural Resources
3. Family	13. Environmental Control
4. Neighborhood	14. Agriculture
5. Personal Services	15. Business and Office
6. Public Services	16. Marine Science
7. Construction	17. Health
8. Transportation	18. Communication and Media
9. Consumer Homemaking	19. Manufacturing
10. Fine Arts and Humanities	20. Marketing and Distribution

Project activities are divided into three phases: (1) awareness at grades K-6; (2) exploration at grades 7-8 and (3) preparation at grades 9-12. These three phases and ongoing academic skills, which become more sophisticated as students mature, define the sequence of the program. The program is organized to give students the opportunity to develop decision-making skills, to improve their self-concepts, to plan for their own career development, to perceive school as being relevant to their needs, and to involve the community in their learning experiences. Occupational clusters are sequenced to ensure developmental learning experiences as well as awareness of a variety of careers. To design the project's supplementary instructional activities, the 20 occupational clusters and the eight career education concepts are blended with the instructional activities found in the existing curriculum guides.

Implementation Sequence

Project EPIC's design is based on career education activities that were successfully implemented in Jefferson County over a period of six years. The materials and techniques are a result of activities that were implemented, monitored, and evaluated in an incremental fashion. As previously stated, project staff felt that inner-city, low-income students had a great need for career education. Therefore, in the first project year (1975-76), the project was pilot tested in one elementary, middle, and secondary inner-city school. In 1976-77 the project was expanded to include an additional elementary and combined middle/secondary school. The project is currently being implemented throughout the district's 165 schools.

The continuous refinement process allowed each program component to be

analyzed as to whether it met the academic, social, career, and self-concept needs of students. The major emphasis of these efforts was on producing infusion techniques that would make career education a developmental, sequential part of the teaching/learning process.

Elementary Phase (K-6)

This phase of Project EPIC is aimed at increasing students' awareness of the world of work, self, decision-making processes, and the community. The major teaching technique is infusion of career education concepts into the reading and math content areas. Instructional activities at this level include interviewing, role-playing, and the use of interest centers.

The interviewing process gives students practice in the skill areas of research, inquiry, listening, and communicating skills. All students in grades K-6 interview workers in particular clusters. The clusters presented on page 6 were sequenced across grade levels to produce a scope and sequence chart. This sequence is listed in more detail on pages 9-10. Students are generally deficient in listening and speaking skills; interviewing guests is a positive reinforcement for both areas of competence.

Students prepare for an interview by researching the career. The class then meets to develop a set of questions to ask the guest. Through this process, they define the information they want to obtain from the speaker and discuss what they expect will occur during the interview. While conducting the interview, students focus on learning the skills that the guest uses in his or her job. Prior to the interview the teacher sends the guest a brochure listing typical questions that may be asked. The guest may be asked to bring an example of his or her work to illustrate use of an academic skill (for example, an editor may bring a sample of a short article that summarizes a much longer article).

After the speaker leaves, students summarize what they learned from the interview. Students are asked what they liked best about the person's job. They may bring in tools that the worker uses. They send the guest a thank-you letter and a certificate of appreciation. Teachers are encouraged to have students conduct two interviews per month.

The interview is the key to the elementary phase. It is motivating for the students, and is a precursor to infusion. Words pertinent to the occupation of the interviewee are put in a master vocabulary list to be used in language arts activities. For example, occupational titles such as "farmer" are incorporated in an activity concerning suffixes and prefixes; the titles are grouped into

occupational clusters. They can later be used in an activity concerning possessives (e.g., farmer's tractor). The rationale for having a maximum of two interviews per month is that if they occur more frequently, the career information cannot be absorbed by students or infused as systematically into ongoing academic learning activities.

Research is conducted by every student either before or after an interview. The media displayed in the following chart may be used to obtain or transmit information.

MEDIA-RELATED ACTIVITIES IN THE CLASSROOM

Filmstrips	A Collage of Workers and Tools
Films	Written Reports
Tape Recordings	Writing Letters for Information
Picture Study	Books
Storytelling	Booklets
Fingerplays	Television
Role Playing	Magazine/Newspaper Articles
Games	Bulletin Boards
Experience Charts	

Role playing provides an opportunity for students to act out a work situation (e.g., putting on a news show) and to examine their interests. A game of charades might be played. Cards are prepared with pictures of workers with a few suggestions on tasks performed by the worker to give students ideas for the role-play situation. Students draw cards and then role play the worker for others to guess. This activity is utilized both to determine what students already know about a particular job and to check on what they have learned from an interview. For example, one fifth-grade class interviewed a representative of American Synthetic, a company that manufactures synthetic rubber. A few days later the class reconstructed the interview, with a student taking the part of the manufacturing representative. He played the part quite accurately, even to the point of tossing out to the class a piece of rubber that he had made, using the company's formula!

Classroom interest centers serve a variety of purposes. They help students gain factual knowledge, develop specific skills, deepen understanding of careers, and spark creative activities. Interest centers can focus on one specific skill related to a career cluster; focus on a career cluster, giving information about various jobs within the cluster; or focus on a specific subject area, covering a

variety of skills related to a career cluster. A center can be as simple as having a stapler on a table, with students asked to list workers who use this tool in their jobs. One fourth-grade teacher had an interest center representing careers in Kentucky.

A Career Education Handbook was written for each elementary grade level (K-6). The handbooks describe the elementary, or awareness, phase of Project EPIC and present the nine career education learner goals established by the U.S. Office of Education. Specific student performance objectives are displayed for each grade level. The elementary phase's structure is described, and background information is presented for each of the career clusters to be studied at that particular grade level, as shown below. The following types of information are presented:

- nature of the jobs in that cluster
- required personal attributes
- required education and training
- job settings
- opportunities
- examples of jobs in that cluster
- materials available on request, including the pertinent organization's mailing address

The handbooks go on to describe instructional activities suitable for infusing career education into the curriculum (i.e., interviewing, research, role playing, interest centers, hands-on activities, discussion, and field trips). Finally, bulletin board ideas are suggested. Some are general career themes, while others relate seasons and holidays to careers (for example, playing on the Trick-or-Treat theme, the Halloween suggestion is "Treat Yourself to a Career").

Career Cluster Sequence. The following chart lists the career clusters studied at each grade level.

CAREER CLUSTERS FOR THE ELEMENTARY PHASE

GRADE LEVEL	CAREER CLUSTER
Kindergarten	Home School
Grade 1	Family Neighborhood
Grade 2	Personal Services Public Services
Grade 3	Construction Transportation Consumer Homemaking Fine Arts and Humanities

GRADE LEVEL	CAREER CLUSTER
Grade 4	Hospitality and Recreation Natural Resources Environmental Control Agriculture Business and Office
Grades 5 and 6	Marine Science Health Communication and Media Manufacturing Marketing and Distribution

In addition to the Career Education Handbook, teachers utilize Career Education Supplements that were developed for language arts and math in grades 1-6. The supplements illustrate how to combine an objective from the existing language arts and math curriculum guides with a career education objective. The lesson plan below, taken from the third-grade language arts supplement, illustrates how career information can be infused into a grammar lesson concerned with capitalization and punctuation.

GRADE 3: SAMPLE LANGUAGE ARTS LESSON

Level 8: Grammar

Skills: Capitalization and punctuation

Behavioral Objective:

Given a passage in which no capitalization or punctuation is indicated, the student will copy the passage, using correct capitalization and punctuation.

Career Education Objective:

After participation in activities that provide information about occupations within the consumer homemaking, fine arts and humanities, construction, and transportation clusters, the student will be able to match job titles with duties performed when presented with a sample of job titles.

Facilitating Activity:

The teacher says:

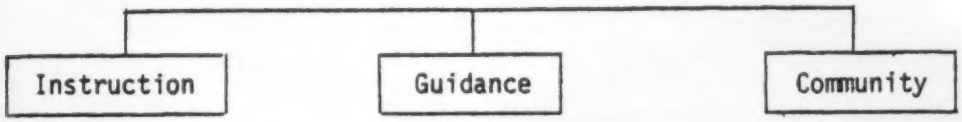
We are going to write a story about the workers in a restaurant and the tools they use. Think about all the workers and the jobs that are needed during a noon-hour rush at the Hamburger Haven. Use the following words in the story.

restaurant manager	cook	salad maker
waitress/waiter	busperson	dishwasher

The teacher writes the story on the chalkboard as sentences are dictated by students, without indicating capitalization or punctuation. The students copy the story, using correct capitalization and punctuation.

The awareness phase at the elementary level provides the background skills and attitudes essential to the next developmental phase -- exploration -- ensuring a comprehensive, coherent career education. The school counselor addresses self-awareness concerns. These three components -- instruction, guidance, and the community (to be discussed in a later section) -- are the resources utilized during the elementary grades.

ELEMENTARY PHASE COMPONENTS



Middle School Phase (7-8)

This phase of the project emphasizes in-depth exploration of jobs. It builds upon the attitudes and skills developed in the awareness phase. Additional skill training -- both academic and technical, hands-on experiences, and greater self-analysis are provided. A major focus is the relevance of curriculum content to careers. The junior-high years are seen as crucial ones; career education provides young adolescents with the motivation to think of future career decisions at a time when they are primarily concerned with the present.

Interviewing remains an important instructional activity. Since students at this age are concerned with self-awareness, they tend to ask speakers directly if they like their jobs. Guests are asked to describe their work's negative and positive aspects. Specific career clusters are addressed in different content areas.

Jefferson County schools have a core program that encompasses language arts and social studies instruction. An additional block of time, an exploratory period, is an outgrowth of the core program. During this time students are exposed to enrichment and hands-on activities concerning the world of work. The exploratory period covers one hour per day for three weeks during each quarter. The first exploratory period at each grade level is an orientation period. The following topics are included: (1) self-exploration; (2) attitudes toward work; (3) skills needed to assess and obtain a job; and (4) basic employability skills.

Career clusters are assigned to the remaining three exploratory periods at each grade level to ensure a broad base of exploration. The following kinds of

activities are included: (1) in-depth analysis of occupational information (e.g., market demand); (2) interviews; (3) use of community personnel as guest teachers; and (4) on-the-job shadowing. One example of an in-class activity was based on the exploration of communication and media occupations. Specifically, students investigated the occupations of television or radio program director and commercial writer. A team of two teachers was responsible for the activity, one teacher taking the newspaper and radio segment and the other taking the television portion. To culminate the experience, students prepared and put on a television news show.

During the course of shadowing a worker on the job, students complete forms to be used in making a presentation to the class. Sometimes students react negatively to a shadowing experience. This is viewed as a positive aspect of the shadowing experience, since it is important for students to know what types of work they do not like as well as lines of work they may want to pursue in the future. (Transportation is sometimes a problem in this phase. Middle-school students are not old enough to drive, and schools located in outlying areas of the county do not have access to public transportation services.) To be able to relate to students' shadowing experiences, teachers themselves are encouraged to work for a day or two in the community.

Project staff have developed Career Education Handbooks by subject area (e.g., language arts, math, social studies, science) for grades 7-12. These are used by teachers as guides for integrating academic skills and career information. The chart on the next page lists career clusters addressed in various content areas and in the exploratory periods, by grade level.

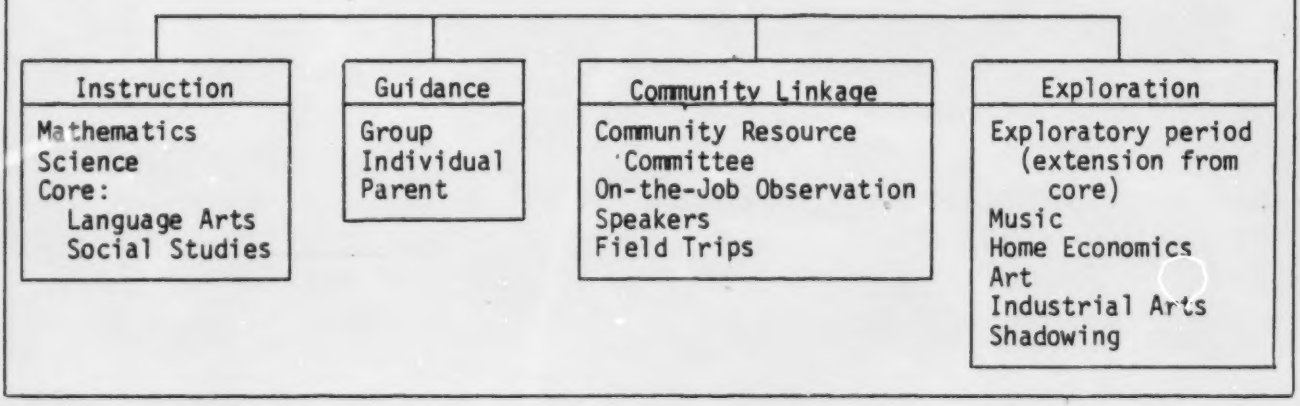
Guidance counselors facilitate students' explorations of themselves and of careers in both group and individual sessions. Guidance activities are related to synthesizing occupational information, developing decision-making skills, setting long-range goals, and values clarification.

Project EPIC's middle-school activities ready the student for the next developmental phase -- preparation -- at which point the student selects a course of action best suited to his or her tentative life plan. In addition to the three components utilized in the awareness phase (instruction, guidance, and community), exploration is incorporated for an intensified exposure to careers. These components are shown in the second chart on the next page.

CAREER CLUSTERS FOR THE MIDDLE-SCHOOL PHASE

Course		Career Cluster
Art		Fine Arts and Humanities
Music		Fine Arts and Humanities
Physical Education		Health and Recreation
Home Economics		Consumer Homemaking, Hospitality and Recreation, Personal Services
Industrial Arts		Transportation, Construction, Manufacturing
Exploratory Periods		
Grade 6:	Cycle 1	Orientation
	Cycle 2	Communication and Media
	Cycle 3	Agriculture
	Cycle 4	Marine Science, Environmental Control, Natural Sciences
Grade 7:	Cycle 1	Orientation
	Cycle 2	Business and Office
	Cycle 3	Marketing and Distribution
	Cycle 4	Personal Services
Grade 8:	Cycle 1	Orientation
	Cycle 2	Public Services
	Cycle 3	Health
	Cycle 4	On-the-Job Observation

COMPONENTS UTILIZED IN MIDDLE-SCHOOL PHASE



Senior High Phase (9-12)

The senior high level is the preparation phase. Based on his or her selection of programs, the student is prepared to enter college with an area of specialization in mind, to obtain a job, or to enter a postsecondary training program. Infusion activities in courses such as English, social studies, and home economics focus on a more narrow range of related occupations to provide opportunities for an in-depth analysis. For example, a civics class studying government brougnt in the Lieutenant Governor to be interviewed. A psychologist came to visit a psychology class. When students were studying anthropology, a local graduate student brought some fossils to class. Students reacted so enthusiastically to his presentation that he took class members on a dig. A hope economics teacher incorporated competency-based modules on occupations in home furnishings in her teaching. A marriage counselor was also interviewed. A math teacher assigned her students independent research projects. In a consumer math course, students simulated a car salesperson's task of figuring out the interest to be paid on a car loan. An algebra student brought in a police officer to be interviewed. The officer discussed the formula used to compute how fast a car was going at the time of an accident by measuring skid marks and plugging them into a formula that yields an unknown value (i.e., miles per hour) when other values (e.g., length of skid marks) are known.

Field trips are used to visit workers (e.g., in health careers such as obstetrics, gynecology, and nursing) in real-life settings as they carry out their roles and responsibilities. An internship experience of varying lengths is available to students during the eleventh and twelfth grades. The internship is a non-paid experience in the career field of the student's choice. The terms of the experience are carefully defined for the students and the employer by means of a contract. A pre-internship orientation is provided for each student as well as a follow-up analysis with the student and the employer. To cite just a few examples, students have had internships in psychology and in day-care centers.

The school counselors and a community placement counselor work together to place graduating seniors in college, postsecondary programs, or immediate job entry. In addition to the above-mentioned internship and post-graduation placement, part-time employment, summer jobs, and co-op employment are available to all senior high students in a variety of programs. The help provided to low-income students through such programs is often the determining factor that enables these students to remain in school and to pursue a long-range goal that before would have been virtually impossible.

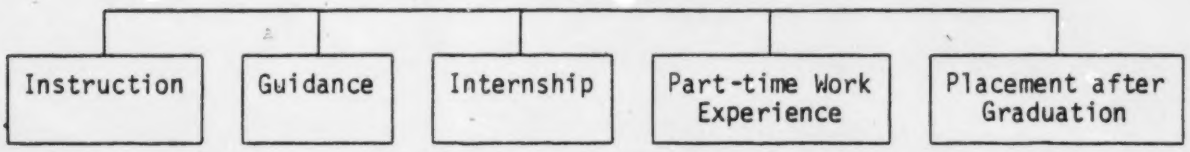
The Division of Manpower Services provides a full-time placement counselor in the senior high school to help students obtain part-time employment and summer jobs. Co-op work experience is offered through the following vocational programs located in the high school:

- Business and Office -- A program designed to help students enrolled in vocational business courses to apply skills learned in those business courses.
- Distributive Education -- A program designed to prepare individuals for entering a career in retailing, wholesaling, or service occupations.
- Occupational Work Experience Programs -- A program designed to help guide potential dropouts and underachievers. The program offers basic training and information that assist students in locating, securing, and maintaining employment.

A work/study program provides work for students needing an income to continue in their vocational training. The Neighborhood Youth Corps provides part-time work training experiences for youths from low-income families so they can maintain or resume their education. Vocational counseling is provided to assist students in developing their maximum occupational potential. The career education program is seen as a coordinating umbrella for these employment programs at the senior high level.

In summary, guidance activities facilitate the student's self-concept, attitudes, decision-making skills, and self-analysis skills; emphasis is given to placement upon graduation in a job, in college, or in a postsecondary training program.

Project EPIC Components in the Senior High Phase



Key Materials

The following materials are available for dissemination:

- A book describing the career education program that would enable adopting school districts to infuse career education concepts into their ongoing curricular activities.

- Career Education Handbooks, one for each grade level (K-6); the handbooks are written by subject area (e.g., language arts, math, social studies, science) for grades 7-12, for a total of approximately 30 Handbooks.

- Career Education Supplements for language arts and math for each of grades 1-6; the supplements illustrate how to combine an objective from the existing language arts and math curriculum guides with a career education objective. These techniques are included in the subject area handbooks for grades 7-12 described above.

- A description of inservice training plans for different academic areas and grade levels. The first staff development activities focus on techniques for implementing career education. Specific subject areas are addressed next (e.g., language arts, art, math). Finally, teachers learn how to involve the community and parents in the project.

Reactions to Project EPIC Materials and Activities

It was reported that students reacted positively to having career information infused into their regular academic work. Students are more interested in school since they can see the relevance of learning basic skills to future job success. Slow learners especially seem to benefit from this more concrete relationship between in-class activities and later, out-of-class lifestyles. Project EPIC is thus a motivating factor for student achievement.

Teachers have also reacted positively to the program. Even though some courses had been career oriented for years, EPIC gave teachers of those courses updated materials and an organizational direction. Teachers' experience working in the community gives them an idea of the importance of what they are teaching. They think about what they are teaching from a career perspective. A beneficial side effect of the program concerned staff development. The project's staff trainers found that many teachers lacked sound teaching methodologies. Therefore, the trainers stressed methodological skills while helping teachers infuse career education into their ongoing academic programs.

PARENT AND COMMUNITY INVOLVEMENT

Project staff view the community as an essential part of the career education program. Use of the community as a laboratory for learning is seen as enhancing students' awareness of the working world. In the elementary phase the primary community resources are the parents and workers within the local school. Businesses, community leaders, and senior citizens in the immediate school neighborhood provide a good resource for community involvement.

Advisory Committee

An Advisory Committee of parents and community resource persons was formed to ensure a high level of interaction between the community and education. The committee consisted of 25 members representing groups such as the National Alliance of Businessmen (NAB), the Armed Services, the PTA, the Chamber of Commerce, and the Junior League. During the first project year, the committee consisted solely of business representatives who spent most of their time trying to determine how they could best help the project. The more interested business people remained on the committee after the first year, and it expanded to include service organizations such as the NAB. The committee sometimes has one or more students attend its meetings. Occasionally it meets at a school and directly observes Project EPIC activities.

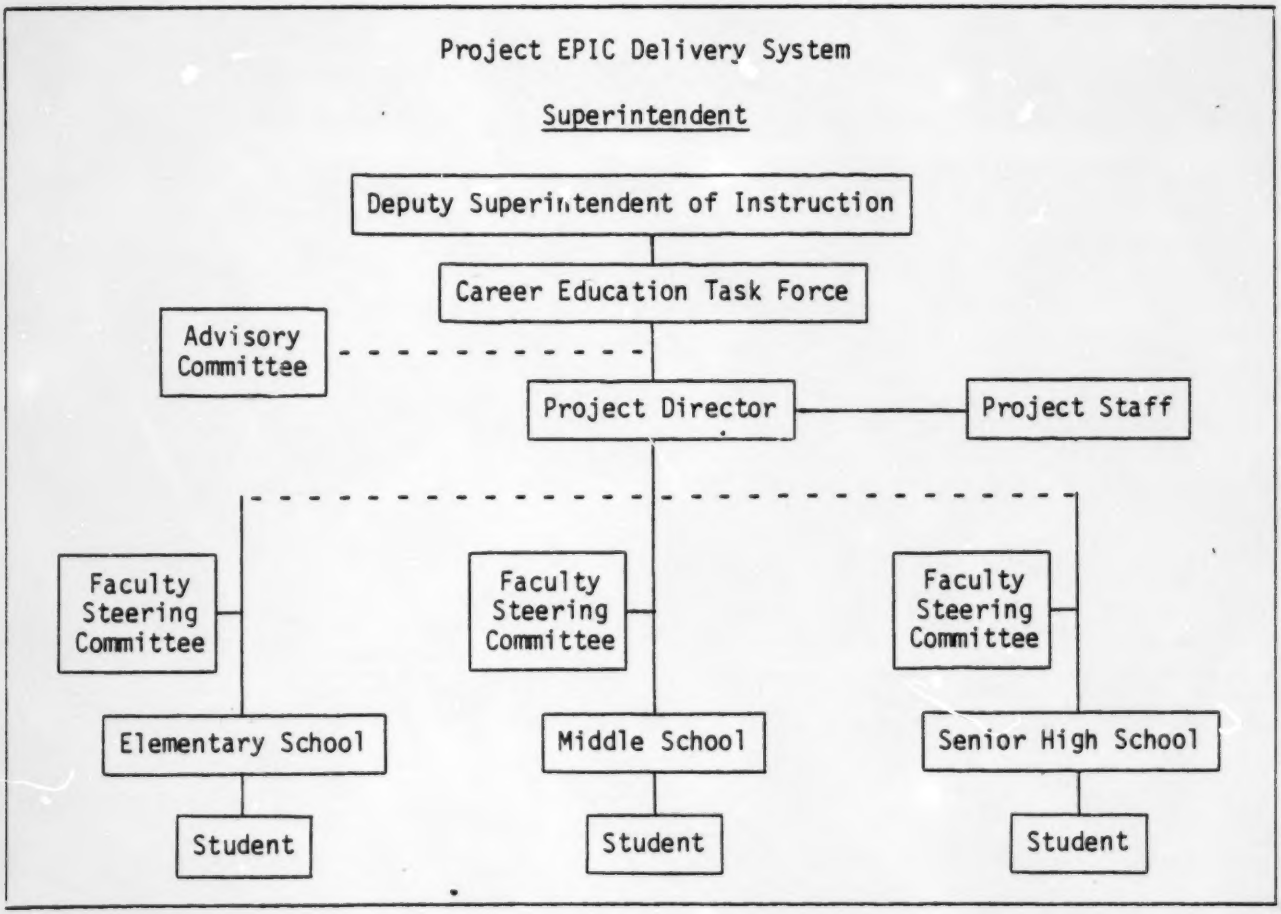
One committee function is to provide cassettes for taping interviews with community resource persons who cannot come to the class in person. It is also involved in videotaping interviews to be viewed later by persons who were unable to be present when the interview took place. The advisory committee later divided into task-oriented subcommittees. A public information subcommittee worked with the Chamber of Commerce to develop a cross-referenced book of community resources for teachers to use in obtaining guest speakers. Another subcommittee conducted a community survey and then published a pamphlet, distributing it throughout the community to let members know about Project EPIC. A third subcommittee advised project staff on how to operate when the project began to expand from five schools to all 165 schools in the district. One recommendation was to have one person operate in a brokerage fashion making all business contacts for setting up guest speakers, field trips, and shadowing or internship experiences.

Steering Committee

In addition to the project's Advisory Committee, a Steering Committee for career education implementation was formed at each school site. The purpose of the committees is to assess progress made toward infusing career education into the curriculum as well as to develop strategies for infusing career education concepts into new programs currently getting underway. At the elementary level the principals identify who will serve on the committees. Typical composition is one teacher per grade level, the librarian, a reading specialist, and a math specialist. The elementary steering committees meet twice per month. At the middle school and senior high levels the steering committees consist of a

guidance counselor, department heads from core programs (language arts and social studies), science, math, home economics, industrial arts, and fine arts, a student, and the principal. Steering committees at this level meet once per month.

These facilitating agents -- the advisory and steering committees -- worked with other project personnel to produce the delivery system for Project EPIC shown below.



STAFFING AND MANAGEMENT

Staffing

During the two-year development and field testing period, Project EPIC staff consisted of a project director, three staff trainers, and a secretary. Project evaluation was conducted by Jefferson County's Research and Evaluation Unit Staff. The functions of key staff are displayed on the next page.

Staff Functions	
Project Director	• Prepares the overall plan for career education implementation within the local education agency • Develops inservice programs for teachers • Develops management programs • Serves as a facilitator and change agent once the program is in operation • Serves as a liaison with state and national agencies • Develops programs of community involvement * ** *** ** *
Staff Trainer	• Manages and refines the process of blending career education into the teaching/learning process • Trains classroom teachers in the use of appropriate techniques and strategies • Coordinates project implementation at the building site • Coordinates community involvement by contacting and scheduling speakers • Implements evaluation and monitoring system at building site • Assesses program needs, analyzes data, and provides feedback to the project director • Assists in project dissemination * ** *** ** *
Research and Evaluation Unit Staff	• Conducts process evaluation to ensure that the project is installed and implemented as originally planned • Conducts pre- and posttests to ascertain achievement of student performance objectives

Management Strategies

Activity forms were developed by staff trainers to be completed by each teacher once a month. This enables the trainers to determine the extent of career education infusion in class and to identify areas in which teachers need further support. During the two-year development and field testing phase of the project, some teachers resisted implementing project activities because they were sceptical about finding time to fit career education into an already crowded schedule. However, project staff were able to convince these teachers that career education would not require additional time since the activities would be infused into already scheduled academic activities. Trainers also developed

a master card to be completed by teachers after concluding a field trip. The cards are filed in the building office, creating a library of information for other teachers who might be thinking of taking similar trips.

Management Information System. This system was designed to help central project staff collect and analyze process data to interpret project objectives and implement an operational plan for achieving the objectives. The system is used to detect deficiencies in the installation or implementation of project activities at each school and to provide decision makers with information to ensure congruence between planned and actual events. The performance of students, teachers, and project staff is monitored. Each quarter project staff complete an action plan indicating major tasks, timelines, and role responsibilities. An accomplishment report filed at the end of the quarter allows comparisons to be made between planned and actual implementation. When deviations are detected, change requests are filed to make necessary modifications in activities and timelines. Staff from the district's Research and Evaluation Unit conducted classroom observations, administered teacher questionnaires, and conducted interviews to solicit in-depth information about problem areas identified in the questionnaires. Use of these procedures provided the project manager with information to facilitate project operations.

Inservice Training

Staff development begins with inservice training at the beginning of the school year. Staff trainers conduct a three-day workshop for all principals, librarians, counselors, teachers, and reading and math specialists. The first session begins with techniques for implementing career education. Participants are introduced to the project concept and to various instructional activities, such as developing bulletin boards, interviewing guests, and use of commercial materials. The supplementary curriculum guides that demonstrate how to infuse career education by matching a career education performance objective with an academic objective from the existing curriculum guides are explained. Then teachers are given time to develop materials for their own classroom use.

During the year teachers have released time to receive inservice training. Each trainer is assigned to staff at a particular educational level (i.e., one works with the elementary schools, one with the middle schools, and one with the secondary schools). Elementary teachers view this as a time when they get needed support from the staff trainer. The individual's particular teaching styles and needs are addressed. The trainer may make contacts with resource

persons and arrange field trips. At the middle school level teachers have one day of inservice training before each quarter begins. At this time they go through the exploratory unit to be presented during that quarter and note what resources will be needed each day. A key factor in Project EPIC's success has been the time teachers have before school begins and the released time they have during the year to make materials to be used with students. Staff trainers develop a positive relationship with the teacher and then teach a demonstration lesson, such as how teachers can prepare a class for an interview. The demonstration lesson has proved to be one of the most effective methods of inservice training.

In addition, the secondary staff trainer is responsible for organizing a Career Resource Room to house the commercial career education materials purchased by the project. Such materials include kits with occupational briefs; Career World magazines; filmstrips; and free materials provided by businesses. The trainer also orders movies for classroom use.

A final training session is conducted at the close of the school year to further refine Project EPIC's design and delivery system, to further refine the process of infusing career education into academic content areas, to provide feedback on the evaluation system, and to determine objectives for the coming school year.

Participants are requested to complete the form below in order to assess the training program's effectiveness.

CAREER EDUCATION WORKSHOP FEEDBACK FORM

1. This workshop was designed to meet a need of the participants:
   (met a need) 6 5 4 3 2 1 (met no need)
2. The purposes for having the workshop were:
   (clearly stated) 6 5 4 3 2 1 (unknown to me)
3. The activities and/or training accomplished:
   (its purposes) 6 5 4 3 2 1 (nothing)
4. The workshop was:
   (well organized) 6 5 4 3 2 1 (poorly organized)
5. Overall, I feel that what I've learned from this workshop will be:
   (very useful) 6 5 4 3 2 1 (of little value)

6. The demonstrated ways of infusing career education into subject areas were:
   (very useful) 6 5 4 3 2 1 (of little value)

7. My knowledge of how to infuse career education material into the curriculum increased as a result of the workshop:
   (increased a lot) 6 5 4 3 2 1 (did not increase)

8. My skill in applying infusion techniques incorporating career education concepts in classroom activities increased as a result of the workshop:
   (increased a lot) 6 5 4 3 2 1 (did not increase)

COSTS

Project EPIC received $360,611 in federal funds during the two-year development and implementation period. These monies were from the U.S. Office of Career Education. Costs for salaries included the project director, three staff trainers, and a secretary. The school district contributed to the project by providing office space for the four project staff members as well as telephone use. The total 1976-77 budget was $150,000. The program served a total of 5,300 pupils (K-12) during that year for an average cost of $28.30 per pupil. This cost was computed by dividing the 1976-77 total project budget by the total number of student participants. Jefferson County's average per-pupil expenditure for regular school programs was $1,571 during the 1976-77 school year; thus, the EPIC effort represented 1.8% of the regular per-pupil expenditure.

The table below presents costs for project installation and for the subsequent year in the two-year development and installation period. Following is an estimate of the expense to school districts interested in adopting or adapting Project EPIC.

Categories and Levels of Funding for Project EPIC

	INSTALLATION (Non-recurring Costs)	IMPLEMENTATION (Non-recurring Costs)
Personnel	$ 94,080	$ 83,520
Personnel Training	9,720	30,420
Facilities	---	---
Equipment and Materials	17,510	8,290
Staff Travel	2,675	1,855
Consultants	1,700	900
Process and Outcome Evaluation Services	69,325	20,000
Indirect Costs	15,601	5,015
TOTAL	$210,611	$150,000

Approximate Costs for Adoption of Project EPIC*	
Personnel	
1 Coordinator	$21,492
1 Secretary	7,500
Personnel Training	
Pre-Service (training prior to school opening)	
162 teachers, new or maintenance schools	
2 days - 6 hrs @ $5/hour = $30 (substitutes)	9,720
Released Time Inservice	
162 teachers, new or maintenance schools	
1 day - @ $30 (substitutes)	4,860
Duplication/Printing	
Instructional materials, training workshops, dissemination	2,000
TOTAL	$45,572

*NOTE: Assuming that the 162 teachers receiving training served a total of 4,860 students, the average per-pupil cost to adopting districts would be $9.37.

EVIDENCE OF EFFECTIVENESS

Claims of Effectiveness

It is claimed that participation in Project EPIC increases self-awareness and basic academic skills of students in grades 9-12. At this level, data were collected and analyzed showing that the project successfully infused career education concepts into the district's general curriculum and implemented staff development techniques that could be adopted by other districts.

Attainment of student outcome objectives was assessed by an evaluation design in which student performance was compared against a national average and against students' own predicted scores. When compared against these standards, the students showed growth in self-awareness as assessed by the Coopersmith Self-Esteem Inventory. Student growth in academic skills was measured by the Stanford Achievement Test.

Interpretability of Measures

The Project EPIC 1976-77 Final Evaluation Report prepared by the Research and Evaluation Unit of the Jefferson County Public Schools presented mean pre- and posttest scores from the Coopersmith Self-Esteem Inventory and from the 1973 edition of the Stanford Achievement Test (both well-known batteries with high reported reliabilities) as evidence of program effectiveness. Both project and Research and Evaluation staff studied several self-awareness instruments and

then decided that the Coopersmith items had the highest face validity with respect to the project's desired learner outcomes and the curriculum materials developed by project staff.

Under a county-wide testing program, all students were administered the Stanford Achievement Test (Form B) in the first week of May 1976 and again in May 1977. These data were thought to be valid indicators of the project's success in reaching its first goal -- i.e., that after participation in the career education program, students at each grade level would demonstrate an increase in basic academic skills.

Evidence of Impact

As previously stated, project staff felt that Jefferson County's inner-city, low-income students had a great need for career education. Therefore, the project was pilot tested during the 1975-76 school year in one secondary inner-city school, which had previously had a high percentage of low-income students. However, concomitant with the initiation of Project EPIC during the 1975 school year, the Jefferson County schools began court-ordered bussing to achieve desegregation. As a result, many of the low-income students were sent to other schools in the county, leaving 14% of the reconstituted student population coming from low-income families.

In 1976-77, the project was expanded to include a combined middle/secondary school. After bussing, the percentage of students from low-income families was 33% at this school. Enrollment and socioeconomic status data for the two project schools are included in Table 1 below.

Table 1

1976-77 Project School Demographic Data

School Name	Enrollment	% of Students from Low-Income Families
Fairdale High (grades 7-12)	1,915	33
Central High (grades 9-12)	1,512	14

The evaluation of the impact of Project EPIC's career education activities on student performance in the two target schools was conducted by the Research and Evaluation Unit. The data reported here were collected in 1976-77. Different sampling techniques were utilized for different outcomes. In assessing self-awareness, one class was randomly selected at each grade level in each school.

In assessing basic academic skills, all students in the target schools were tested. Results were then analyzed and interpreted in relation to national norms (for self-awareness) or predicted scores based on the students' past performance (for academic skills). These results indicated that students had increased their self-awareness and reading and math achievement.

Credibility of Evidence

Achievement tests were administered by the regular classroom teachers, not by project staff. The Research and Evaluation Unit appointed one monitor at each school; the monitor was responsible for distributing the tests and providing technical assistance regarding test administration. Each teacher was given a list of procedures corresponding to the standardized procedures included in the test manual. Only the results from students who took the test at both administrations were analyzed. Data analyses were conducted by staff from the Research and Evaluation Unit, not by project staff.

The Coopersmith Self-Esteem Inventory (Form B) was administered in the fall of 1976 and again in the spring of 1977 to students in the target schools. One class was randomly selected at each grade level in each school. (Selection was done by home room.) Form B is a 25-item test; subjects read the items and check their responses as either "like me" or "unlike me." The Coopersmith was administered by the staff trainers; Research and Evaluation Unit staff conducted the data analysis. There appears to be no reason to suspect biased test administration and no doubt as to the accuracy of the data analysis.

Data obtained from administration of the Coopersmith Self-Esteem Inventory were compiled to show the mean score for each grade level. Scores of participants in Project EPIC were analyzed in relation to the national average for students in grades 4-9 (70.0). The mean scores by grade and the mean scores over all four grades are given in the table below.

Mean Coopersmith Scores for Project EPIC Students

	Fall 1976		Spring 1977	
Grade	N	Mean	N	Mean
9	57	61.4	40	71.0
10	57	62.2	41	69.4
11	50	62.8	40	75.6
12	41	67.2	36	68.0
Total Group	205	63.1	157	71.1

(NOTE: The N includes two classes, one at Fairdale and one at Central. Variation in N from pre- to posttest is due to student attendance on the days tests were given; the staff trainer was not required to give makeup tests.)

As this table shows, mean scores increased from pre- to posttesting for all four grades. Scores for two grade levels (9 and 11) exceeded the national average (70.0), and the total group aggregate mean also surpassed the national average.

A different strategy was used in analyzing project impact on students' academic achievement. The project was designed to prepare low-income students for future careers. Since the target schools ranked among the lowest in the district in terms of student academic performance, it was thought that a national norm group would not be the most appropriate comparison standard. Rather, students were used as their own controls in the following manner.

As part of its ongoing program evaluation procedures, the Research and Evaluation Unit developed regression equations for predicting SAT reading and mathematics total scores. The equations were developed on the total student population enrolled in the 1975-76 and 1976-77 school years. By using an equation generated on the basis of performance by all the students in the school district, the pretest scores (from the May 1976 testing) of students at a particular grade level in a particular school were used to predict posttest (May 1977) achievement means. Predicted performance was compared with actual performance and the difference -- or discrepancy -- was used as a measure of the project's impact. This regression analysis was viewed as the most appropriate evaluation design since it took into account the general effect of context on everyone in the district.

The discrepancy analysis results for reading and math achievement in the two project schools with students in grades 9-12 are shown in the tables below. All actual (pre and post) and predicted achievement score means are shown in percentile rank units. Calculations were done entirely on raw scores; the resulting means were then converted to percentiles, using end-of-grade norms.

1976-77 Discrepancy Analysis for Project EPIC Schools (Reading)

Grade	School	N	Pretest	Predicted Posttest	Actual Posttest	Discrepancy
9	Fairdale High	267	36	38	38	0
	Central High	268	56	54	56	+2
	Total Grade 9	535	46	46	48	+2
10	Fairdale High	199	44	42	46	+4
	Central High	265	62	60	64	+4
	Total Grade 10	464	54	54	56	+2
11	Fairdale High	205	44	46	46	0
	Central High	254	52	52	58	+6
	Total Grade 11	459	50	50	52	+2
12	Fairdale High	86	48	46	50	+4
	Central High	65	52	50	54	+4
	Total Grade 12	151	50	46	52	+6

NOTE: All values are based on raw score means converted to percentile ranks.

1976-77 Discrepancy Analysis for Project EPIC Schools (Mathematics)

Grade	School	N	Pretest	Predicted Posttest	Actual Posttest	Discrepancy
9	Fairdale High	271	38	38	38	0
	Central High	260	60	54	58	+4
	Total Grade 9	531	48	48	48	0
10	Fairdale High	198	44	42	42	0
	Central High	265	62	58	66	+8
	Total Grade 10	463	54	50	54	+4
11	Fairdale High	201	46	52	46	-6
	Central High	243	50	54	64	+10
	Total Grade 11	444	50	54	58	+4
12	Fairdale High	86	52	50	46	-4
	Central High	61	60	54	58	+4
	Total Grade 12	147	54	52	52	0

NOTE: All values are based on raw score means converted to percentile ranks.

In both content areas, Central High students produced positive discrepancies at all four grade levels. Fairdale students achieved more than was predicted in reading at the tenth- and twelfth-grade levels; no discrepancies were registered at the ninth- and eleventh-grade levels. Total group mean scores for reading were greater than predicted for all four grade levels. In the math area, Fairdale students achieved as predicted in grades 9 and 10; they achieved less than predicted in grades 11 and 12. Total group mean scores for math were greater than predicted for grades 10 and 11; total group performance for grades 9 and 12 was as predicted.

Evidence That Effects Are Attributable to the Intervention

Posttest achievement scores for project students were predicted based on the 1976-77 performance of all the students in Jefferson County, many of whom also participated in other special programs. The fact that project students equalled or surpassed their predicted scores in six out of eight cases reveals a fairly consistent pattern of results across schools and grades. The major difference between the treatment received by students at Fairdale and Central and that received by students in the rest of the county was their participation in Project EPIC. Maturation could not be a causal factor since the regression equation accounted for the maturation experienced by the entire group of county students. Since the project was targeted for low-income students, who were frequently low in terms of academic performance, it is unlikely that selection of a superior

treatment group was a causal factor. Rather, it can be inferred that the greater than predicted achievement was attributable to the learning experiences provided by Project EPIC.

Evidence of Generalizability to Other Populations

Project EPIC's career education model was aimed particularly at inner-city, economically disadvantaged youth. It produced noteworthy results at an inner-city high school as well as at a suburban middle/secondary school. Due to court-ordered bussing, the population of these two schools included suburban, middle-income students; participation in project activities was effective for them as well. In addition, the identification or development of a more comprehensive set of career education instruments might show gains in areas not measured during the 1976-77 school year.

Project EPIC has not been adopted by any other location outside Jefferson County. However, district staff have been awarded state monies to expand Project EPIC's activities throughout the district's 165 schools. Its successful operation throughout Jefferson County Schools would provide a strong indication that the project would be generalizable to other similar communities and school populations.

Review by Joint Dissemination Review Panel

The Joint Dissemination Review Panel (JDRP) was established by the Education Division of the Department of Health, Education, and Welfare in 1972. The joint U.S. Office of Education - National Institute of Education (NIE) panel currently has 22 members, eleven from each agency, appointed respectively by the Commissioner of Education and the Director of NIE. The JDRP meets periodically to review the evidence of effectiveness submitted for a wide variety of federally supported educational products and practices, with effectiveness being the sole criterion for approval by the JDRP. It is charged with the responsibility of ensuring that educational interventions - projects, products, or practices - have been shown to have positive impacts on their recipients before they are disseminated with federal funds or endorsed by the Education Division.[1]

In May 1978, the JDRP reviewed Project EPIC; they did not approve it for nationwide dissemination at this time. The panel suggested that more evidence of project effectiveness was needed. and that a different evaluation design

[1] Tallmadge, G.K. The Joint Dissemination Review Panel: IDEABOOK. Washington D.C.: NIE/DHEW, September 1977.

be employed. The evaluation design used, calling for regression analyses, did not permit unequivocal conclusions to be reached regarding impact of project activities on target students. In addition, the discrepancies resulting from use of the regression analyses, i.e., differences between predicted and actual performance of students on achievement measures, were sufficiently small in magnitude to raise doubts among the panelists that they were in fact educationally significant. This information is provided so that those school districts interested in adopting this project may have the advantage of the panel's suggestions.

CONCLUSION

Jefferson County's Career Education Unit accepted a major challenge in developing Project EPIC. Despite being confronted by the problems of consolidation and desegregation, of apathy and low achievement levels prevalent in many inner-city schools, and of frustration and tension so easily engendered by these conditions, project staff invested long hours in the project and are now justifiably proud of their efforts.